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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,162	01/22/2001	Robertson Graeme	PM276595	3966

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PILLSBURY WINTHROP, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER

YOON, TAE H

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 04/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/744,162

Applicant(s)

Robertson et al

Examiner

T. Yoon

Group Art Unit

1714

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

☒ Responsive to communication(s) filed on 3-19-03, RCE

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

## Disposition of Claims

☒ Claim(s) 1-5 and 7-12

is/are pending in the application.

Of the above claim(s)

is/are withdrawn from consideration.

☐ Claim(s)

is/are allowed.

☒ Claim(s) 1-5 and 7-12

is/are rejected.

☐ Claim(s)

is/are objected to.

☐ Claim(s)

are subject to restriction or election requirement

## Application Papers

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some\* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

☒ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other \_\_\_\_\_

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Allowability of claim 9 (and othe claims) is withdrawn since there is following prior art which must be addressed since now the instant claim is free of "unfilled".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minghetti et al (US 5,705,552 or WO 96/26238).

Minghetti et al teach acrylic sheets and a polymerization thereof in examples 1 and 2. The use of silica particles having particle size of 7-30 millimicrons (7-30 nm) such as CAB-O-Sil M5 is seen in example 2 and at col. 4, lines 23-35 which meets the instant finely divided compound. Said example 2 show 59.2 % weight of an acrylic component and 0.53 % weight of silica. However, Minghetti et al do not specify the amount of said acrylic component at col. 2, line 63 to col. 3, line 20 wherein the amount of other components are taught. The total amount of the minimum amount of other components would be about about 26 wt%, and thus the amount of said acrylic component would be at least 70 wt%. Furthermore, the total amount of (b), (c), (d) and (e) in claim 1 is about 25 wt%, and thus the amount of said acrylic component would be at least 70 wt%. The example 1 shows ethylene glycol dimethacrylate whcih meets the instant

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linking compound, and various linking compounds (crosslinker) in an amount of 0.01 to 10 wt% including the instant hydroxyethyl methacrylate is taught at col. 3, lines 49-59.

The instantly recited "comprising" permits the presence of other components such as ATH which is not aluminum oxide of the instant invention.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize at least 70 wt% of acrylic components in Minghetti et al (such as the teaching at col. 2, line 63 to col. 3, line 20 or example 2 with a crosslinker) since Minghetti et al teach such modification as the reason given above.

Claims 1-5, 7, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase et al (US 5,753,362) alone, or in view of Minghetti et al (US 5,705,552 or WO 96/26238).

Kawase et al teach acrylic sheets having good mechanical properties in abstract and examples. Said acrylic sheets are made of 0.1 to 15 wt% of a monomer having a functional group, 60-99.9 wt% of (meth)acrylic acid alkyl ester and a polyfunctional monomer. Acrylic monomers having functional groups such as a hydroxyl or alkoxy group are taught at col. 12, lines 17-56). Examples 15-19 show the use of hydroxyethyl methacrylate. Silica with a particle size of 0.02 to 0.8 micron (20-800 nm) are taught at col. 24, lines 1-2.

The instant invention recites a particle size of 1 to 50 nm. Minghetti et al teach silica particles having particle size of 7-30 millimicrons (7-30 nm)

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It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize a polymeric system comprising the recited amount of acrylic monomers and silica having a particle size of 20-50 nm in making sheets in Kawase et al with or without teaching of Minghetti et al since choosing such silica from silica having a particle size of 20-800 nm and an amount thereof is considered a *prima facie* obviousness since such silica is well known and commercially available as taught by Minghetti et al and since one skilled in the art would have known to adjust an amount of filler depending on the desired final properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (703) 308-2389. The examiner can normally be reached on Monday to Thursday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

THY/April 7, 2003

  
TAE H. YOON  
PRIMARY EXAMINER